

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Application No.: 09/996,773

REMARKS

Review and reconsideration on the merits are requested.

Applicants would like to thank Examiner Webb for the telephone interview graciously accorded concerning this application on January 15, 2004. The claims discussed in detail during that interview were the claims mentioned in Paragraph 2 of the present Action. Applicants' attorney questioned the Examiner as to whether in fact these claims were withdrawn from consideration considering that claim 1 was a "consisting" of claim. The Examiner indicated that if one species were selected, then that species would be considered. It was indicated to the Examiner that Applicants would be pursuing claim 26, and the Examiner was asked as to whether claims which depended from claim 1 (directly or indirectly) which could properly depend from claim 26 could be changed in dependency to claim 26. These claims were not discussed in detail. The Examiner indicated that if claim 26 were to be allowable, then the dependency change would be acceptable. The Examiner indicated that he did not feel it appropriate to search in multiple directions, but would consider one of claims 25, 26 and 29.

Applicants limit to the subject matter of claim 26 and change dependency as above discussed.

Only art rejections are posed. Applicants approach the rejections as though they were against claim 26.

Prior art considered: U.S. Patent 5,580,846 Hayashida et al (Hayashida); U.S. Patent 6,428,387 Hunt et al (Hunt); U.S. Patent 5,489,557 Jolley (Jolley); U.S. Patent 5,393,386 Aoyama et al (Aoyama). The rejections presented are, in general, as follows:

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Anticipation over Hayashida;

Obviousness over Hayashida;

Anticipation over Hunt;

Obviousness over Hunt;

Anticipation over Jolley;

Obviousness over Jolley;

Anticipation over Aoyama.

In traversing, Applicants comment as though claim 26 were the independent claim.

Hayashida

The portion of Hayashida relied on by the Examiner refers to numerous Japanese Publications (column 2, line 43 to column 3, line 6). Applicants have independently reviewed the Japanese Publications discussed below, and they have offered comments thereon. In addition, it appears that Hayashida itself discloses an organic alkali and hydrogen peroxide. Separately from the Examiner's statement concerning peroxydrates, which appears to only apply to claim 23, Hayashida appears to disclose a composition containing only hydrogen peroxide and tetramethylammonium hydroxide.

Applicants' comments on the Japanese Publications and a few U.S. patents, as received from Applicants, are summarized below.

50-14728

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A semiconductor surface treating agent is disclosed which consists of a tetraalkyl ammonium hydroxide and hydrogen peroxide. As the tetraalkyl ammonium hydroxide, tetramethyl is shown.

53-43012

A semiconductor surface treating agent is shown which consists of a quaternary alkyl ammonium [trialkyl (hydroxyalkyl) ammonium hydroxide] and a complexing agent (including an amine). Hydrogen peroxide is not used.

50-158281

The cited reference discloses the same composition as 53-43012.

53-20377

In the cited reference, a semiconductor surface treating agent consisting of a quaternary alkyl ammonium and hydrogen peroxide is disclosed.

US 4,239,661

The cited reference discloses a semiconductor surface treating agent including a specific quaternary alkyl ammonium. If necessary, it may contain an additive complexing agent (including an amine) and a surface active agent, but it does not include hydrogen peroxide.

US 4,339,340

The cited reference discloses a surface treating agent consisting of a specific quaternary alkyl ammonium, hydrogen peroxide, and a complexing agent (including an amine).

No disclosure in Hayashida appears relevant to claim 26.

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Hunt

The Examiner asserts that Hunt teaches a composition to be added to a slurry containing only tetramethylammonium (TMAH) and hydrogen peroxide (col. 3, lines 11-19).

Though Hunt discloses TMAH and hydrogen peroxide, Hunt teaches adding TMAH and hydrogen peroxide to a slurry to improve polish selectivity. Applicants have reviewed Hunt to see if in Hunt TMAH and hydrogen peroxide are combined before being added to the slurry.

Referring to column 4, lines 13-17 and Fig. 1 of Hunt, this illustrates the situation where a first system 100 supplies a main stream slurry and a second system 110 supplies TMAH/hydrogen peroxide. It would seem that in Hunt only a combination of a quaternary ammonium and hydrogen peroxide would exist.

Hunt does not appear relevant to claim 26.

Jolley

Jolley discloses a process for treating a surface using ammonium hydroxide, which includes hydrogen peroxide and a quaternary ammonium.

Jolley does not appear relevant to claim 26.

Aoyama

From the Abstract, it appears that Aoyama discloses preparing a high purity aqueous quaternary compound by reacting "a quaternary ammonium organic acid salt with hydrogen peroxide...in the presence of a platinum group metal catalyst."

Thus, Aoyama relates to a "Production Process" of quaternary ammonium which does not contain undesirable impurities. As mentioned in the Examples (e.g., Example 1 at column 5,

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line 58; Example 2 at column 6, line 26, etc.), hydrogen peroxide was not detected in the obtained products.

Aoyama does not appear to be relevant with respect to claim 26.

Applicants request allowance of claim 26 and claims dependent therefrom.

Respectfully submitted,



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